BRUHATH BANGALORE MAHANAGARA PALIKE

Material Test Report for the Work of

Improvements to drain and construction of culverts at W Type HMT Qtrs in Ward No. 16.

REPORT FOR

Executive Engineer
Rajarajeshwari Nagara Division,
Bruhath Bangalore Mahanagara Palike
Bangalore

STRUCT GEOTECH RESEARCH LABORATORIES PVT. LTD.,
No. 588, 2nd Main, 6th Block, Hosakerehalli Cross, Banashankari III Stage,
II Phase, Bangalore – 560 085.
Tel.: 080-2642 2752, Tele Fax 080 – 26723662
Email: sgrlpl@rediffmail.com, sgrlpl@yahoo.com

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Report No.: SGRL / CM / 601 / 13-14

11.09.2013

TEST REPORT

Client*	:	The Assistant Executive Engineer, RR Nagara Sub Divison Bruhath Bengaluru Mahanagara Palike, Bangalore.
Job Reference*	:	EE/RRND/Wo.No/683/2012-13 Dated: 19.03.2013
CSR No	:	CM262, Dt:02.09.2013
Name of the work*	:	Improvements to drain and construction of culverts at W Type HMT Qtrs in Ward No. 16.
Contractor*		M/s. Banashankari Construction.
Source of Sample	:	Sample supplied of TPIA
Sample Id*	:	W Type HMT Qtrs in Ward No. 16, PCC 1:4:8 & M20 for drain & culverts work
Date of receipt	:	02.09.2013
Date of testing	:	04.09.2013 to 11.09.2013
Type of Sample	:	Cement

Type of Cement*: OPC **Grade of Cement*:** 53 **Brand*:** Birla Super

Sl. No.	Description	Test Result	Requirements as per IS 12269 : 1987	Test Method
1	Setting Time			
	a) Initial Setting Time	182 min	Min. 30 min	IS: 4031 (Part V)
	b) Final Setting Time	407 min	Max. 600 min	
2	Standard Consistency	28%	-	IS: 4031 (Part IV)
3	Compressive Strength	36.00 N/mm^2	Not less than 27 N/mm^2	IS: 4031 (Part VI)
	(i) 3 days (72 ± 1h)			
	(average of three results)			

For Struct Geotech Research Laboratories Pvt. Ltd.,

Authorized Signatory
Quality Manager

Note: (i) The results relate only to the items tested (ii) This test report should not be reproduced except in full, without written approval of this laboratory (iii) Any corrections invalidates the test report (iv) Any Query regarding the report must be reported immediately.

*Informatin as furnished by TPIA

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STRUCT GEOTECH RESEARCH LABORATORIES PVT LTD.,
NABL ACCREDITED ISO / IEC 17025: 2005 LABORATORY
CERTIFICATE NO. T-1507

Report No.: SGRL / CM / 602 / 13-14

06.09.2013

TEST REPORT

Client* : The Assistant Executive Engineer,
RR Nagara Sub Divison
Bruhath Bangalore Mahanagara Palike,
Bangalore.

Job Reference* : EE/RRND/Wo.No/683/2012-13 Dated: 19.03.2013

CSR No : CM262, Dt:02.09.2013

Name of the work* : Improvements to drain and construction of culverts at W Type HMT Qtrs in Ward No. 16.

Contractor* M/s. Banashankari Construction.

Source of Sample : Sample supplied of TPIA

Sample Id* : W Type HMT Qtrs in Ward No. 16, PCC 1:4:8 & M20 for drain & culverts work

Type of Sample : Sand

Name of Test : Sieve Analysis

Date of receipt : 02.09.2013

Date of testing : 06.09.2013

Test Method : IS: 2386 (Part 1) 1963

SL. No.	Sieve size	Weight Retained	% Weight Retained	Cumulative % of Weight Retained	% of Weight Passing	Specification as Per MoRT&H
1	10	0.00	0.00	0.00	100.00	100.00
2	4.75	83.48	83.48	8.35	91.65	90-100
3	2.36	64.53	148.01	14.80	85.20	75-100
4	1.18	128.39	276.4	27.64	72.36	55-90
5	0.6	245.57	521.97	52.20	47.80	35-59
6	0.3	312.48	834.45	83.45	16.56	8-30
7	0.15	105.72	940.17	94.02	5.98	0-10

The Sand tested conforms to Zone II as per MoRT&H (Fourth Revision)

For Struct Geotech Research Laboratories Pvt. Ltd.,

Authorised Signatory
Veeraraghavan Subramanyam
Quality Manager

STRUCT GEOTECH RESEARCH LABORATORIES (P) LTD.

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***Informatin as furnished by TPIA**

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CERTIFICATE NO. T-1507

Report No.: SGRL / CM / 603 / 13-14

10.09.2013

TEST REPORT

Client*	:	The Assistant Executive Engineer, RR Nagara Sub Divison Bruhath Bengaluru Mahanagara Palike, Bangalore.
Job Reference*	:	EE/RRND/Wo.No/683/2012-13 Dated: 19.03.2013
CSR No	:	CM262, Dt:02.09.2013
Name of the work*	:	Improvements to drain and construction of culverts at W Type HMT Qtrs in Ward No. 16.
Contractor*		M/s. Banashankari Construction.
Source of Sample	:	Sample supplied of TPIA
Sample Id*	:	W Type HMT Qtrs in Ward No. 16, PCC 1:4:8 & M20 for drain & culverts work
Date of receipt	:	02.09.2013
Date of testing	:	10.09.2013
Type of Sample	:	Coarse Aggregate - 40mm and down
Name of Test	:	Sieve Analysis

IS Sieve Designation	Cumulative Percent Passing		Test Method
	Test Result	Requirement as per Table - 1000-1 of MoRT&H	
63.00 mm	100	100	IS: 2386 (Part 1) - 1963
40.00 mm	97.26	95-100	
20.00 mm	41.42	30-70	
10.00 mm	15.69	10-35	
4.75 mm	2.24	0-5	

For Struct Geotech Research Laboratories Pvt. Ltd.,

for R. Venkata Subramanyam
Authorized Signature
Quality Manager

STRUCT GEOTECH RESEARCH LABORATORIES (P) LTD.

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CERTIFICATE NO. T-1507

Report No.: SGRL / CM / 604 / 13-14

TEST REPORT

10.09.2013

Client*	:	The Assistant Executive Engineer, RR Nagara Sub Divison Bruhath Bengaluru Mahanagara Palike, Bangalore.
Job Reference*	:	EE/RRND/Wo.No/683/2012-13 Dated: 19.03.2013
CSR No	:	CM262, Dt:02.09.2013
Name of the work*	:	Improvements to drain and construction of culverts at W Type HMT Qtrs in Ward No. 16.
Contractor*		M/s. Banashankari Construction.
Source of Sample	:	Sample supplied of TPIA
Sample Id*	:	W Type HMT Qtrs in Ward No. 16, PCC 1:4:8 & M20 for drain & culverts work
Date of receipt	:	02.09.2013
Date of testing	:	10.09.2013
Type of Sample	:	Coarse Aggregate - 20mm and down
Name of Test	:	Sieve Analysis

IS Sieve Designation	Cumulative Percent Passing		Test Method
	Test Result	Requirement as per Table - 1000-1 of MoRT&H	
40.00 mm	100	100	IS: 2386 (Part 1) - 1963
20.00 mm	96.24	95-100	
10.00 mm	28.86	25-55	
4.75 mm	1.53	0-10	

For Struct Geotech Research Laboratories Pvt. Ltd.,

*Authorized Signature
Vasuki Subramanyam
Quality Manager

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CERTIFICATE NO. T-1507

Report No.: SGRL / CM / 605 / 13-14

13.09.2013

TEST REPORT

Client*	:	The Assistant Executive Engineer, RR Nagara Sub Divison Bruhath Bangalore Mahanagara Palike, Bangalore.
Job Reference*	:	EE/RRND/Wo.No/683/2012-13 Dated: 19.03.2013
CSR No	:	CM262, Dt:02.09.2013
Name of the work*	:	Improvements to drain and construction of culverts at W Type HMT Qtrs in Ward No. 16.
Contractor*		M/s. Banashankari Constructions.
Source of Sample	:	Sample supplied of TPIA
Sample Id*	:	W Type HMT Qtrs in Ward No. 16, PCC 1:4:8 & M20 for drain & culverts work
Type of Sample	:	Steel
Date of receipt	:	02.09.2013
Date of testing	:	13.09.2013
Sample Identification	:	8mm, 10mm, 12mm, 16mm, TMT "INDUS" Fe 415 Bars
Reference to BIS codes	:	IS 1786:2008, IS 1608:2005, IS 1599:1985 (Reaffirmed 2006)

Sl. No.	Brand	Nominal size (dia in mm)	Mass per metre (kg/metre)	TENSILE STRENGTH		
				0.20 % proof stress/ yield stress (N/mm^2)	Tensile strength (N/mm^2)	Elongation, percent on gauge length
1	INDUS TMT	8	0.396	421	511	16
	INDUS TMT	10	0.617	428	523	17
2	INDUS TMT	12	0.888	435	532	15
3	INDUS TMT	16	1.58	442	548	12

For Struct Geotech Research Laboratories Pvt. Ltd.,

Authorized Signature
Quality Manager

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Report No.: SGRL / CM / 606 / 13-14 17.10.2013

TEST REPORT

Client* : The Assistant Executive Engineer,
RR Nagara Sub Divison
Bruhath Bangalore Mahanagara Palike,
Bangalore.

Lab Reference* : EE/RRND/Wo.No/683/2012-13 Dated: 19.03.2013

SR No : CM262, Dt:19.09.2013

Name of the work* : Improvements to drain and construction of culverts at W Type HMT Qtrs in Ward No. 16.
M/s. Banashankari Construction.

Contractor* : Sample supplied of TPIA

Source of Sample : W Type HMT Qtrs in Ward No. 16, PCC 1:4:8 & M20 for drain & culverts work

Sample Id* : 6 Nos

No. of Cubes Tested : 28 days

Age of Specimen : M15

Grade of Concrete* : IS: 516-1959

Test Method

Sl. No.	Specimen ID*	Date of Casting*	Date of Testing*	Dimension od Specimen (mm) L x B x H	Weight of Cube (Kg)	Failure Load (KN)	Compressive strength (N/mm^2)
1	CM 262 - d1	19.09.2013	17.10.2013	151.30 x 151.30 x 150.80	8.076	413	18.36
2	CM 262 - d2	19.09.2013	17.10.2013	150.40 x 151.80 x 151.60	8.132	385	17.11
3	CM 262 - d3	19.09.2013	17.10.2013	150.20 x 150.60 x 151.40	8.154	392	17.42
4	CM 262 - d4	19.09.2013	17.10.2013	150.80 x 151.20 x 151.70	8.169	364	16.18
5	CM 262 - d5	19.09.2013	17.10.2013	150.60 x 151.40 x 150.80	8.212	389	17.29
6	CM 262 - d6	19.09.2013	17.10.2013	149.80 x 150.20 x 150.60	8.184	378	16.80

For Struct Geotech Research Laboratories Pvt. Ltd.,

Authorized Signature
B. Venkata Subramanyam
Quality Manager.

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CERTIFICATE NO. T-1507

Report No.: SGRL / CM / 607 / 13-14

TEST REPORT

25.10.2013

Client* : The Assistant Executive Engineer,
RR Nagara Sub Divison
Bruhath Bangalore Mahanagara Palike,
Bangalore.

Job Reference* : EE/RRND/Wo.No/683/2012-13 Dated: 19.03.2013

CSR No : CM262, Dt:27.09.2013

Name of the work* : Improvements to drain and construction of culverts at W Type HMT Qtrs in Ward No. 16.

Contractor* : M/s. Banashankari Construction.

Source of Sample : Sample supplied of TPIA

Sample Id* : W Type HMT Qtrs in Ward No. 16, PCC 1:4:8 & M20 for drain & culverts work

No. of Cubes Tested : 6 Nos

Age of Specimen : 28 days

Grade of Concrete* : M20

Test Method : IS: 516-1959

Sl. No.	Specimen ID*	Date of Casting*	Date of Testing*	Dimension od Specimen (mm)			Weight of Cube (Kg)	Failure Load (KN)	Compressive strength (N/mm^2)
				L	B	H			
1	CM 262 - d1	27.09.2013	25.10.2013	151.20	151.40	150.50	8.098	568	25.24
2	CM 262 - d2	27.09.2013	25.10.2013	150.50	151.70	151.40	8.142	579	25.73
3	CM 262 - d3	27.09.2013	25.10.2013	150.80	150.50	151.30	8.167	586	26.04
4	CM 262 - d4	27.09.2013	25.10.2013	150.60	151.30	151.60	8.232	594	26.40
5	CM 262 - d5	27.09.2013	25.10.2013	150.40	151.60	150.20	8.216	605	26.89
6	CM 262 - d6	27.09.2013	25.10.2013	149.70	150.80	150.70	8.148	616	27.38

For Struct Geotech Research Laboratories Pvt. Ltd.,

Authorized Signature
Venkata Subramanyam
Quality Manager

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